

# Algebra 1-2

## Unit 9 Day 7 Notes

Name \_\_\_\_\_

Date \_\_\_\_\_ Period \_\_\_\_\_

Recall: Solve the following quadratics using the ZPP:

$$x^2 + 3x - 10 = 0$$

$$x^2 + 12x + 20 = 0$$

Do you ever feel like factoring takes too long to solve a quadratic?

Do you ever feel like just using a formula to solve?

Do you ever encounter a quadratic you just can't factor?

Then we have the thing just for YOU!

Introducing...

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

**The Quadratic Formula!!**

**Examples:**

Looking at the first problem again, let's use the quadratic formula to solve it!

$$x^2 + 3x - 10 = 0$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

a =

b =

c =

Solutions: \_\_\_\_\_

There are \_\_\_\_\_ solutions, so this parabola touches the x-axis \_\_\_\_\_ times.

Use the quadratic formula to solve the following quadratics.

$$x^2 - 8x + 16 = 0$$

a =

b =

c =

Solutions: \_\_\_\_\_

There are \_\_\_\_\_ solutions, so this parabola touches the x-axis \_\_\_\_\_ times.

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$$4x^2 - 7x = -2$$

a =

b =

c =

Solutions: \_\_\_\_\_

There are \_\_\_\_\_ solutions, so this parabola touches the x-axis \_\_\_\_\_ times.

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$$x^2 - 4x + 45 = 0$$

a =

b =

c =

Solutions: \_\_\_\_\_

There are \_\_\_\_\_ solutions, so this parabola touches the x-axis \_\_\_\_\_ times.

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$$2x^2 + 2x - 4 = 0$$

a =

b =

c =

Solutions: \_\_\_\_\_

There are \_\_\_\_\_ solutions, so this parabola touches the x-axis \_\_\_\_\_ times.